Frankly Speaking

An Important Responsibility

THE need for better traffic and transportation facilities as well as better traffic control has been the subject of many written words. Much has been written, but probably not enough has been *read*.

Among those most keenly aware of the need for better facilities and control are the traffic engineers of this nation, who by constant watch over traffic trends, diagnose and develop remedies for the weak and dangerous conditions of the highways. Movement on the public highway is an ever-changing fluctuating thing. It is the combined pulse of millions of Americans in progress. Acceptable and effective traffic facilities and control of yesterday may, today, be neither effective nor acceptable.

As Traffic Engineers it is our professional function constantly to feel this pulse and to keep abreast of its changes. How? Through research in fields of new developments and a constant re-examination of precedures, criteria and applications of the past. More and more people will continually look to us, as Traffic Engineers, for the criteria from which the course for the years ahead will be charted and changed as needs require.

In this respect, discussions at the recent annual Institute of Traffic Engineers business meeting indicated a need for examining some of the basic practices in traffic control. A Research Exploratory Committee of four members was appointed to investigate and report regarding subjects most needing further examination and ways and means of stimulating and coordinating traffic engineering research. The work of this committee is of utmost importance to our profession as well as to the public at large.

One immediate and pressing need is in the field of speed control along critical sections of the public highways. This may not mean new methods of speed control, but surely does mean the re-examination of existing methods to determine those of greatest effectiveness. Acceptable speed control should now be applied—"post haste."

T. J. Lebum

President, I.T.E.

VOLUME XVI OCTOBER, 1945 NUMBER 1

Improvements to Motor Car Headlights to Provide Safe Seeing

by VAL ROPER
Engineering Division, Lamp Dept., General Electric Co.

THE slower speeds and reduced traffic density on the roads between cities attending wartime driving restrictions were no doubt responsible for a large part of the decrease in traffic fatalities since 1941. It follows that unless we exercise greater care and attention to both our driving and our equipment, accidents and fatalities may now soar to new heights.

Sealed Beam Headlamps

Unfortunately, night-time driving involves additional hazards as compared to daytime driving, including fatigue, poor visibility and glare. The latter two factors—visibility and glare—are to a great extent under the control of the driver. If he has a car built in 1940 or later, he has Sealed Beam Headlamps. These require no maintenance other than aiming. They provide two beams—a "clear road driving beam" and a "traffic beam." The clear road beam is intended for use when there are no approaching cars within 1,000 to 1,500 feet. *If properly aimed* it provides safe seeing for most legal speeds—providing the driver has reasonably good eyes.

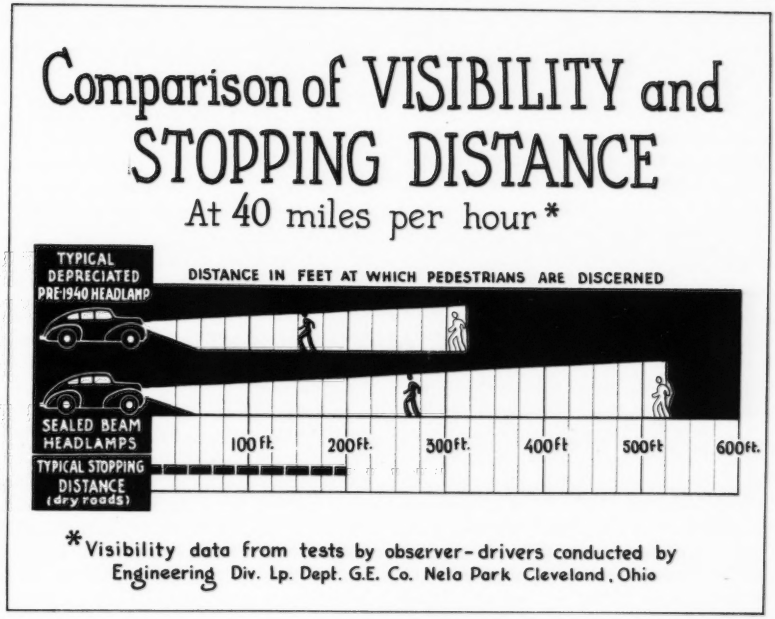
The traffic beam should always be used when approaching other cars on the open road, and when driving on lighted highways and city streets. This traffic beam provides better seeing than the driving beam, when other cars are approaching, providing it is used by the approaching car as well. There are two reasons for this—glare reduction and silhouette seeing. Objects—cars, pedestrians or obstructions—on the road between the approaching cars are shown up as silhouettes against the background of the road illuminated by the approaching headlamps. If the clear road beams are used by approaching cars, the blinding glare obviates any chance for silhouette seeing.

Adaptors for Pre-1940 Cars

Many cars older than the 1940 models have been equipped with Sealed Beam Headlamps by means of adaptors. Those which have not are subject to depreciation through accumulation of dirt on reflectors and lenses, tarnished reflectors and blackened bulbs. These may be restored to efficiency by cleaning or replacing the reflectors, replacing worn-out gaskets, replacing blackened bulbs. The average, uncared-for, pre-1940 headlamps are not capable of providing safe seeing for even the 35 miles per hour wartime speed. There are at least ten million passenger cars with pre-1940 headlamps in various stages of depreciation. These constitute a real hazard not only to the drivers of these cars but to all the motorists who have occasion to meet them on the road at night as well as to pedestrians.

Relative Hazard With Old and New

The extent of the hazard is illustrated by the accompanying diagram which shows the relative seeing and stopping distances (at 40 miles per hour) of the clear road beam of Sealed Beam Headlamps and the average depreciated pre-1940 lamp. From the diagram it can be seen that even Sealed Beam Headlamps provide only a slight extra margin of seeing for adverse conditions or less than normal eyesight. However, the Sealed Beam


Comparison of VISIBILITY and STOPPING DISTANCE
At 40 miles per hour*
TYPICAL DEPRECIATED PRE-1940 HEADLAMP
DISTANCE IN FEET AT WHICH PEDESTRIANS ARE DISCERNED
SEALED BEAM HEADLAMPS
100 ft.
200 ft.
300 ft.
400 ft
500 ft
600 ft.
TYPICAL STOPPING DISTANCE (dry roads)
*Visibility data from tests by observer-drivers conducted by Engineering Div. Lp. Dept. G.E. Co. Nela Park Cleveland, Ohio

Headlamps give the maximum light output permissible under the Uniform Vehicle Act, which is the basis of laws and regulations in many states. It is logical to ask whether any attention is being given by the engineers to the problem of better post-war headlighting. Until the driving public demonstrates—better than they have thus far—that they will habitually employ the traffic beam when meeting other cars, the state administrative authorities are naturally reluctant to trust them with more powerful headlamps.

Polarized Headlighting Problems

Fortune Magazine recently published an article on polarized lighting which has been advanced as one answer to the headlighting problem. It involves but a single beam for the highway which will provide good visibility even when passing other cars because glare is largely eliminated. It involves much higher wattage in the headlamps to overcome the absorption of light in the polarizing film over the headlamps and in the "analyzer" in the line of vision. This "analyzer" may be either a shield in the form of a visor —or spectacles worn by the driver. Automotive engineers are making an intensive study of the possibilities of polarized lighting which naturally includes tests upon the durability of the material as well as on the physical and human factors in its application and use. Perhaps the greatest problem would be that of equipping the millions of cars and trucks already on the road. These do not have adequate generator, battery, wiring and switching capacity to handle the lamps of higher wattage that are needed. Yet until almost all cars are equipped—old as well as new—the advantages of polarized lighting would not be completely realized.

In the meantime, regardless of the

experiments with polarized headlighting, the driving public should be urged to take three steps immediately:

1. If the car is of pre-1940 vintage, first have the headlamps serviced—replace tarnished reflectors, worn out gaskets and blackened bulbs—or install Sealed Beam units by means of adaptors.

2. Have the headlamps properly aimed by a competent service station.

3. Always use the lower or traffic beam when meeting other cars. Use clear road or upper beam *only* when the road is *clear*.

If the above three steps are taken and followed by a sufficient number of drivers, we can look to an immediate improvement in comfort and safety of night driving, and also make it possible for the states to authorize further advances in headlighting.

TRAFFIC ENGINEERS PREPARE TO MEET CHALLENGE OF TRAFFIC AND ACCIDENTS

by THOMAS J. SEBURN
President, Institute of Traffic Engineering

NEVER have traffic engineers faced a challenge of the proportions now confronted. Rusty drivers, aged motor vehicles, the feeling of freedom engendered by removal of war-time restrictions on driving, the set-back in traffic control and regulation occasioned when traffic engineers entered the armed forces, these and other unavoidable conditions have produced a boom in traffic accidents and fatalities. So, in resuming peacetime public service, traffic engineers face immense, unprecedented responsibilities.

Shortly after the war struck, the Office of Defense Transportation issued twelve policies on wartime traffic control — these immediately were placed in effect the country over. Those policies, gauged to conservation and to the reduced wartime traffic, have served their purpose. Today traffic engineers must re-examine traffic control devices and methods, and refit them to the increasing peacetime traffic. This change-over must be made in an enlightened way to best achieve free-flowing traffic and accident prevention.

During the war, traffic engineers served their country well, both in the battle areas and on the home front. But the large numbers who left for foreign duty naturally weakened the home-front army fighting to save lives on the roads and streets. The Yale Bureau of Highway Traffic reports that 48 per cent of its graduates, nearly all of whom were in responsible civilian positions, joined the armed forces. State and local traffic law enforcement agencies, too, suffered large personnel losses, 25 per cent or more, which also has contributed to the difficulties of re-establishing a solid front against accidents.

To meet this challenge of traffic accidents, which has been authoritatively described as the worst in all motoring history, there must be full cooperation by state and city policy and law-making bodies. Traffic engineering functions must be re-established and improved to meet the demands which are bound to multiply as automotive production picks up speed.

In our recent business sessions of the Institute of Traffic Engineers at Philadelphia, almost exclusive attention was devoted to the war-born traffic problems which have so speedily descended upon us. There is no question in my mind but that traffic engineers will devote the full force of their energy, training and experience to this vital job.

California Study Shows Parkway Accidents are Less Frequent

by R. E. PIERCE, *Highway Engineer*
Reprinted from "California Highways and Public Works"

THE elimination of pedestrian deaths and intersection accidents, and a considerable reduction in mishaps involving injuries and fatalities between intersections, is shown by a recent study of accidents for the four years from 1941 to 1944, inclusive, on the Arroyo Seco Parkway between Los Angeles and Pasadena, as compared with Los Angeles city streets of comparable traffic volume.

The accompanying table shows various accident data, all based on million vehicle miles for the years 1941 and 1944. For purposes of comparison these years were selected because 1941 was the last pre-war year and 1944 the last available war year.

It is obvious that the Arroyo Seco Parkway—with its built-in features of three traffic lanes on each side of a curbed raised central dividing strip, with good standards of alignment, no street or railroad crossings at grade, no pedestrians, and turning movements across traffic eliminated—is more convenient, comfortable and economical for motor vehicle operation than city streets of comparable traffic volume without these features. These same built-in features also increase the safety of traffic. Just what has been accomplished in the reduction of accidents and added convenience, however, has not heretofore been compiled in actual comparable terms.

A glance at the accident rates per million vehicle miles in the table shows that the rates for the Arroyo Seco Parkway and Riverside Drive (which is in effect an undivided freeway) are quite similar, but all the rest are much higher for both years.

Riverside Drive has certain features in its design differing from the Arroyo Seco Parkway. These are: (1) No outer curbs, which gives traffic more freedom of movement; (2) improved shoulders, allowing disabled cars to park clear of the roadway; and, (3) in addition to there being no intersecting or cross streets there are no access connections such as the parkway has.

These features may explain to some extent the slightly lower rates for Riverside Drive which we find in the table, especially in the "all fatalities" column, for both years.

A study of the causes of accidents on the parkway shows that a few approaching accidents occurred due to illegal movement of cars traveling in the wrong direction. Other accidents were caused by cars striking curbs, ramp dividers and disabled vehicles parked on the traveled way.

Changes In Future Design

Consideration of the causes for these types of accidents will result in design changes in future freeways, which should eliminate a considerable proportion of these types of accidents and make the future freeways show an even better accident record.

The rates shown at the bottom of the table for all California rural state highways, are not comparable with city street rates, but are interesting as they show that the rates for the Arroyo Seco Parkway and Riverside Drive are much lower, in spite of the much heavier traffic they carry, when compared with the rural state highways as a whole.

Time Saving Tests

Time saving, previously mentioned,

A COMPARISON OF ACCIDENTS PER MILLION VEHICLE MILES

Location	Average Daily Traffic	Injuries and Fatal Accidents		All Injury and Fatal Accidents	All Injuries	All Fatalities	Pedestrian Fatalities	Two-Car Accidents —Course of Vehicles		
		Day	Night					Approaching	Overtaking	Intersection
1941										
Arroyo Seco Pkwy.	27,234	0.139	0.347	0.486	0.555	0.035	——	0.052	0.156	——
Riverside Drive ..	27,119	0.202	0.289	0.491	0.722	0.029	——	0.173	0.173	——
Figueroa St., Manchester Ave. to Vernon Ave.	25,090	2.184	2.256	4.440	5.335	0.322	0.251	1.146	1.110	1.074
Figueroa St., Vernon Ave. to Washington Blvd.	32,207	1.258	1.664	2.922	3.181	0.074	0.074	0.444	0.444	1.073
Wilshire Blvd. ...	39,300	1.095	1.444	2.539	3.421	0.045	0.045	0.623	0.912	0.319
State-Rural State Highways	——	——	——	1.174	1.993	0.145	0.036	0.361	0.301	0.241
1944										
Arroyo Seco Pkwy.	21,488	0.176	0.198	0.374	0.549	0.044	——	0.017	0.087	——
Riverside Drive ..	21,404	0.146	0.256	0.402	0.805	——	——	0.146	0.073	——
Figueroa St., Manchester Ave. to Vernon Ave.	19,368	1.391	2.319	3.710	5.566	0.092	0.046	0.464	1.484	0.788
Figueroa St., Vernon Ave. to Washington Blvd.	20,873	1.293	1.533	2.826	3.689	0.096	0.096	0.527	0.910	0.383
Wilshire Blvd. ...	31,389	1.088	1.258	2.346	3.285	0.056	0.038	0.375	0.901	0.319
State-Rural State Highways	——	——	——	0.986	1.678	0.136	0.041	0.330	0.310	0.410

is an important factor on the parkway; this was verified by making test runs with an automobile "floating" with the traffic in order to get as near the average speed of the traffic as possible.

These test runs taken during the heavy traffic periods, 4 to 6 P.M., on the parkway and city streets gave the following results:

ARROYO SECO PARKWAY, 5.80 MILES—From San Fernando Road, Los Angeles to Glenarm Street, Pasadena. Average speed 40.2 m.p.h.

RIVERSIDE DRIVE, 3.50 MILES—From Los Feliz Boulevard to Hollingsworth Drive. Average speed 40.1 m.p.h.

In contrast, test runs made on Figueroa Street and Wilshire Boulevard gave the following results:

FIGUEROA STREET, 5.35 MILES—From Manchester Avenue to Washington Boulevard. Average speed 17.2 m.p.h.

WILSHIRE BOULEVARD, 4.65 MILES—From East city limits of Beverly Hills to Vermont Avenue. Average speed 23.3 m.p.h.

During periods of light traffic the speed on the freeways could be considerably increased without serious hazard, but on the other streets due to the many stops at traffic signals the speed could increase very little.

Accident records for the four years 1941 to 1944 inclusive were collected in this study. The total accidents on the streets used in this study involving injuries and fatalities for these years are as follows: Arroyo Seco Parkway, 114; Riverside Drive, 102; Figueroa Street—Manchester Avenue to Ver-

non, 511; Figueroa Street—Vernon to Washington, 309; Wilshire Boulevard, 710. This further emphasizes the advantage of the freeway type of highway.

Herewith are brief descriptions of the Arroyo Seco Parkway and the three streets:

ARROYO SECO PARKWAY

That portion from San Fernando Road to south city limits of Pasadena, 5.80 miles.

The pavement on each side of the curbed dividing strip is 35 feet wide between curbs, each divided by two traffic stripes into three lanes, the center lane 11 feet in width, the two outer lanes 12 feet wide.

At appropriate and convenient locations, inlets and outlets are provided by means of one-way roads or ramps with widened pavement at these points for blending with or withdrawing from the faster moving traffic on the main freeway.

Parking on the main freeway is prohibited, as are pedestrians.

RIVERSIDE DRIVE

From Los Feliz Boulevard to Hollingsworth Drive, 3.50 miles.

This stretch of road is a 40-foot four-lane undivided asphalt pavement with oiled shoulders four to six feet wide. It is divided into four 10-foot lanes by a double center stripe and a single stripe 10 feet each side of this center stripe. Situated as it is along the westerly bank of the Los Angeles River and with no intersecting streets, it is in effect an undivided freeway and was selected for that reason. Parking is prohibited throughout.

In addition to having no intersecting or cross streets, it also has no inlets or outlets, which the Arroyo Seco Parkway has.

FIGUEROA STREET

From Manchester Avenue to Washington Boulevard, 5.35 miles.

That portion from Manchester Avenue to 37th Street runs practically due north: at 37th Street there is about a 30° angle northeast.

The pavement is asphaltic and is 66 feet in width between curbs. There is a double painted white stripe in the center and a single painted white stripe 10 feet each side of the center stripe. Parallel parking in an 8-foot width is permitted for the entire distance between Manchester Avenue and Washington Boulevard. This marking provides four lanes, the outer lanes being 15 feet wide between the outside stripes and the parking lane.

Nineteen intersections are controlled by automatic signals; of these four are the three-light type, the balance being the semaphore type. These vary in spacing from a minimum of 520 feet to a maximum of 1827 feet.

WILSHIRE BOULEVARD

From east city limits of Beverly Hills to Vermont Avenue, 4.65 miles.

Wilshire Boulevard extends approximately east and west with a small angle about one mile east of Beverly Hills.

The pavement is asphaltic and from Beverly Hills to Ogden Drive, a distance of about three-fourths of a mile, is 80 feet wide between curbs, the balance being 70 feet wide between curbs.

There is a double painted centerline stripe throughout, and two single painted stripes on either side of the center stripe, each 10 feet apart.

Parallel parking is permitted throughout.

This marking provides six traffic lanes throughout. In the portion which is 80 feet wide between curbs there is a width of 12 feet between the outer stripe and the parking lane, while in the portion with the 70-foot width between curbs there is only seven feet between the outer stripe and the parking lane.

Report on Buffalo's Throughway Plan

by LADISLAS SEGOE, *Member, I.T.E.*
Planning Consultant, Buffalo City Planning Commission

URBAN transportation difficulties which in most cities shifted after Pearl Harbor from coping with automobile traffic to handling unprecedented loads by public transit vehicles, will no doubt shift back again. More and bigger traffic jams, longer and more frequent delays, more and still more accidents are in the cards, unless we plan now wisely and can provide soon better and more adequate transportation facilities.

This means not only planning for more commodious and safer highways and thoroughfares, but more convenient, faster and otherwise attractive public transit service. For we should have learned during the past year or two, if we didn't know it before, that the private automobile and the public transit vehicle complement one another in city transportation; also that transit lines do, in an emergency such as the present, and, no doubt, could in normal times—if made sufficiently attractive to use—carry a lot of people who would otherwise travel in automobiles adding unnecessarily to traffic congestion and to the demand for parking space.

Auto Traffic to Rise Sharply

Halted for the duration by gasoline rationing and decline in car ownership, automobile traffic in our cities is resuming its steep climb, and at an accelerated rate. Most every city of any size again is confronted with the problem of augmenting and modernizing its street system to accommodate larger and larger volumes of traffic—in order to prevent costly congestion, the heavy toll of accidents and the depreciation of both business and residential values.

Since Pearl Harbor, automobile registration, which then exceeded 32 million cars, declined by over 10 per cent. Traffic volumes dropped from 15 to 30 per cent in our cities and even more sharply on rural highways. Cheaper and more efficient cars are promised now by the automobile industry. More people will own cars, and they will use them more because they will be more economical to operate. Trucks and buses, too, will be more numerous than ever before, and they will be lighter and larger, we are told. Within five years, we may have 40 million cars registered and traffic in our cities may rise 25 to 40 per cent above 1941 levels—according to traffic engineers' estimates.

Street Systems Inadequate

Few if any of our cities have street systems adequate to accommodate such increases in traffic loads. For in spite of the widening and extension of numerous thoroughfares in the past 20 years, the street systems of practically all cities are essentially what they inherited from the "horse and buggy" era, which were designed for this type of traffic.

How best to meet this problem is a question that is being studied by every forward-looking city the country over. The problem is not a simple one, because "best" implies meeting in the greatest degree possible a number of requirements. From the traffic standpoint the solution should afford facilities for free, convenient and safe travel for local and through traffic of every kind, at highest speeds consistent

with safety—especially safety to pedestrians. Efficiency, that is, maximum permanent traffic-carrying capacity at minimum cost, is another requirement. Finally, and fundamentally most important, any solution, to be acceptable, must not impair existing developments and values, but must promote instead, the desirable future development of the city or metropolitan area.

Various Plans Can Be Followed

Obviously the soundest specific plan of major street improvements to accommodate future traffic—in accord with the above general specifications —will be quite different in different communities, depending on the local situation. The alternates available, however, may be stated in terms of general policy and their suitability and implications evaluated.

Inconceivable as it is that any progressive community would countenance and could afford such a course, the alternate of "doing nothing about it" might well be disposed of first. The consequence of such a policy can best be likened to that of a flood. Its effects may be even more damaging in the long run, because floods, though recurring periodically, do not last very long. Like flooded streams, the growing streams of traffic will leave their normal channels, the arterial streets or thoroughfares, and spill over into the adjoining residential districts. Long before traffic congestion on the thoroughfares becomes intolerable, traffic will avoid them, seeking out the nearest and most easily traveled parallel route—usually through residential areas.

Effects on Residential Areas

That such an invasion of residential sections by traffic will destroy them in time, is amply attested by experience, unfortunately. The noise, fumes and hazards induced by large volumes of traffic impair livability and residential values, and start them on the down grade. The intrusion of traffic into residential neighborhoods is indeed one of the major causes of the extensive slums and blighted residential sections in our cities. But the effects on business properties along the main thoroughfares will likewise be damaging. Congested traffic conditions will destroy their accessibility and drive their regular trade to other shopping districts—probably farther out. Examples of declining business sections, due to such causes, are likewise far too numerous, unfortunately.

Material and Human Costs

To these very serious losses to owners and the community, resulting from the depreciation of both residential and business property, must be added the more obvious costs of traffic congestion—the hidden costs of inefficient vehicle operation and delays, and the direct material and human costs of accidents. These run into millions of dollars annually in our large cities and into hundreds of millions annually. They alone would make a "do nothing" policy indefensible on both economic and human grounds, and will compel the provision of adequate traffic facilities in our cities. What then is the choice in methods in doing this?

One of these is the developing of an adequate network of arterial streets or thoroughfares, by the widening, interconnection or extension of surface streets. With very few notable exceptions quite recently, this policy and methods were pursued by our cities in the past to augment their street systems. The results, it is now widely admitted, were rather disappointing in several respects. In point of additional traffic-carrying capacity gained, street widenings proved inefficient, of but temporary benefit, and too costly as measured by results. Generally they contributed little if anything to traffic safety, and often even increased the

accident hazard, especially to pedestrians. In point of effect on abutting property uses and values, they proved quite destructive.

Widening is Not Solution

Experience over the past 20 years has demonstrated the fallacy of trying to provide for large masses of traffic by widening surface streets. Traffic to and from abutting properties, parking, frequent street intersections, turning movements, traffic lights, obstruct the free flow of vehicles and soon whittle away much of the additional traffic-carrying capacity sought. Detroit, for example, has widened a number of its major streets to 100, 120, and some even to 200 feet—without succeeding in solving its traffic problems.

Woodward Avenue in Detroit was widened for 2½ miles at a cost of $13,800,000, or about 5½ million dollars per mile, from a width of 74 feet to 120 feet, and the additional traffic capacity gained was only about 10,000 vehicles per day. It is not much less congested today than it was before widening—but nowhere near as desirable a shopping street.

Effects of Widening Outlined

This ill-effect on adjoining property is by no means an exceptional but a usual consequence of street widenings. Such "improvements" depreciate and even destroy or render useless both business and residential frontages. Slicing off 40 or even 20 feet from business and residential properties on one side or another, needed for the widening of a thoroughfare, often requires taking down many structures altogether and reduces the depth of lots to such an extent as to render these unsuitable for their former use. Very few substantial new buildings are built to replace those taken down; most of the higher type businesses move to other locations and their places are taken up by cheap temporary uses—parking and used car lots, dining cars, second hand stores and the like. The lower type of business uses on the side widened drag down the character of those on the other side of the street untouched by the widening.

Where the abutting properties along a surface thoroughfare are in residential use or are undeveloped, the effects of the widening proved likewise destructive. Business obviously cannot absorb all such frontages and they are rendered undesirable for residential purposes. Mile after mile of such highway frontages stand vacant in Detroit and other cities. Nobody seems to want them. Much of this property has already reverted to the states or cities for taxes.

Why Widening is Expensive

Because a considerable proportion of their frontage is devoted to business uses, thoroughfares are characteristically very expensive to widen appreciably. The cost of only 20 feet of extra right-of-way has often been found to approximate what it would cost to acquire the whole tier of lots altogether. It is too expensive an operation for what can be accomplished thereby. In addition it reduces to an unnecessary and undue extent taxable values in the community. In sum, while unavoidable and justified for limited application, thoroughfare widening, as a rule, is an economically unsound and wasteful method to be generally applied: inefficient in point of benefits from the standpoint of traffic handling, sound municipal development, as well as traffic safety.

Types of Motorways Wanted

Disappointment with the results of thoroughfare widenings prompted city engineers, highway officials and city planners to look for and experiment with new types of motorways for accommodating the ever-increasing vol-

ume of traffic. They were trying to find a superior type of motorway, such as:

1. Would have a high efficiency and economy, in terms of traffic-carrying capacity per unit cost of construction and upkeep;
2. Could be built on cheaper right-of-way than is usually involved when widening thoroughfares with frontages more or less built up;
3. Would retain permanently the traffic capacity for which it was built;
4. Would permit free and expeditious travel with maximum safety;
5. Would help, instead of harm, existing developments and property values, and further the desirable future growth of the community.

Expressways Present a Solution

Search and experimentation along these lines produced the type of motorways variously called expressways, freeways, limited access roads, or throughways—all having essentially the following basic characteristics.

Such motorways are insulated, in that there is no direct access to them from abutting properties or from minor streets. Traffic can enter and leave only at especially-designed connections with major streets, spaced, as a rule, not less than half a mile apart. In general design they consist of two separated express pavements, one for each direction of travel, plus such parallel service roads as may be necessary to serve the abutting properties. Crossings and left-hand turns at grade are eliminated by means of bridges and ramps, thus making traffic signals and all stops unnecessary. A vehicle entering the expressway can travel uninterrupted and in safety to its destination, at the speed for which the expressway was designated. No parking or stopping is permitted on an expressway at any time.

Designs May Vary Considerably

In other respects, expressways may vary considerably in design. They may be at ground level, or may be elevated or depressed, depending on what is the most appropriate treatment in a given situation. The depressed type is generally the most desirable in urban areas. This may be flanked by landscaped strips, or the two halves of the express pavement may be separated by landscaped areas of varying widths.

It should require no exceptional imagination to see, or lengthy argument to prove, that a motorway of this type—if wisely located in relation to the traffic pattern and the existing as well as the desirable future development of the community—can satisfy the above-mentioned requirements and will have none of the disadvantages and defects experienced with thoroughfare widenings.

Cheaper in Long Run

While admittedly expensive to build, they may often be not as expensive as the substantial widening of business thoroughfares. Even where they are more expensive per mile, they are decidedly cheaper in terms of results. A single traffic lane on an expressway can carry 1500 cars per hour at an uninterrupted speed of 35 miles per hour, compared with 500 to 700 cars per hour on a surface thoroughfare at the usual average speeds of 15 to 20 miles per hour. The capacity of an expressway, moreover, remains intact —it cannot be whittled away by parking, cross traffic, traffic lights and the like, as on a surfaced thoroughfare.

Because of the uninterrupted travel at greater speeds, an expressway may be routed in a somewhat roundabout way, if by doing so right-of-way costs can be substantially reduced or other advantages gained. It can thus be located through any as yet vacant properties, or cheap or obsolete developments, such as blighted areas, if not too far off the direct alignment—instead of ripping out all improvements

on one side of a thoroughfare or another, irrespective of cost, unavoidable in a widening project.

With traffic in opposite directions separated by a central dividing strip, with all crossing traffic and left-hand turns at grade eliminated, with no pedestrian crossings at grade and no parking—accident rates on expressways are less than half what they are on ordinary highways. (During a three-and-a-half year period, the accident rate on the Merritt Parkway, between Greenwich and New Haven, Conn., was only 1.9 per million vehicle-miles, compared with 4.7 on the parallel section of U. S. Highway 1.)

Other Advantages Listed

Because there is considerable range of choice in selecting their routes, expressways can be located where they will not interfere with existing neighborhood developments, and will fit in best with the desirable future developments of the city or metropolitan area. Indeed, they can be employed to promote such development, eradicate or revitalize blighted sections or serve as protecting buffers for residential neighborhoods against adjoining industrial areas.

By relieving business thoroughfares of through highway traffic and longer-distance traffic between widely-separated parts of the metropolitan area, expressways protect both residential neighborhoods and business values. They prevent the intrusion into residential sections of the traffic overflow from congested thoroughfares. They also prevent the destruction of the accessibility, for the regular customers, of business sections along the thoroughfares and interference with the normal trade of these business sections by through traffic from which they derive little or no business at all.

Trend is Toward Expressways

Examples of such expressways or limited access roads are as yet not too numerous—being relatively new types of motorways. There are quite a few of these, though, in and about New York City, and others in St. Louis, Los Angeles, Detroit, to mention a few. Plans are being currently prepared, however, in a great many cities, large and small, for such expressways for post-war construction. In addition, the U. S. Public Roads Administration along with the state highway departments is now engaged in planning a national network of such motorways, including connections into and through most cities of some size, and are ready to finance some of these projects.

The preliminary plan of the national network of inter-regional highways includes two expressways or throughways within the Buffalo Metropolitan Area. These correspond to the two throughways previously projected by the state and local authorities, namely, the Erie Throughway and the Niagara Throughway. The first is designed to be the major statewide east-west inter-regional highway connecting Buffalo with the major cities to the east and west and following generally the Mohawk and the Hudson Valleys.

The second is to be a branch of this throughway from a point in the vicinity and south of Buffalo through Buffalo and Niagara Falls to the Rainbow Bridge and Canada. If wisely planned as integral parts of the Master Plan of the City of Buffalo and the Buffalo Metropolitan Area, these throughways will not only meet the needs of intercity highway traffic but can go a long way toward solving the street traffic problems of Buffalo Metropolitan Area, besides contributing substantially to its desirable future development. The studies herein described and portrayed are intended to accomplish the aforesaid combination of purposes.—*Buffalo City Planning Commission.*

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● If you've been wondering whether a traffic-control system can be planned to meet the expected needs of a city or town and still be flexible enough to cope with change in traffic conditions, the answer is: "*Yes*—if Novalux controllers are used." The following features, common to all Novalux traffic controllers, tell you why:

(a) The G-E Novalux controller's design not only permits any desired use of its circuits and intervals, but also provides for additional circuits and other extra functions at *little extra cost*. In many cases, provision for future modification is all that is involved.

(b) All Novalux intersection controllers have synchronous motors and will operate in step—with or without interconnection. This lets you develop your interconnection as circumstances warrant.

(c) One simple basic design, together with standardized heavy-duty parts, assures long life and low maintenance cost. The money you save will enable you to round out your system more quickly.

There's every reason to start planning now for traffic-control improvement. G-E specialists and the Illuminating Laboratory at Schenectady will help you choose the equipment you'll want to specify. Write the nearest G-E apparatus office, or General Electric Company, Schenectady 5, N. Y.

Type D **(basic single-dial type)—for intersections that require the pedestrian-call feature, or ordinary pre-timed control without interconnection.**

Type DR **(single dial, interconnected)—for the main-traffic streets where cycle change, triple offset, and other common remotely controlled features are needed.**

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Disarming a Highway Robber

by CHARLES M. UPHAM, *Engineer-Director*
American Road Builders' Association

IN PENNSYLVANIA and Kentucky this Fall, citizens will be given an opportunity to defend themselves against one of the most insidious foes of American highways—tax diversion. Following action by state legislatures, constitutional amendments prohibiting tax diversion will be voted on at the general elections in November. These amendments should be passed with overwhelming majorities. Here is a highway robber that can be disarmed by votes.

Motorists pay a heavy premium in taxes for the highways over which they ride. They are taxed every time they buy gas; they are taxed when they purchase licenses; they are taxed for this, that and the other thing in connection with motor vehicle transportation. The tax burden varies in each state; but statisticians tell us that the average car owner pays $53.64 annually in highway user taxes. Considering the millions of private cars, trucks and buses in use, that runs into big money!

Where Does It All Go?

What becomes of this huge fund? It is intended to be used for the extension, improvement and maintenance of highways and for that purpose alone. But is it? Unfortunately, in a number of states, the answer is "no." These raids on highway taxes by statehouse plunderbunds are being stopped, but the action is slow and it may take years before tax diversion is completely eliminated in the United States.

Sixteen states have passed constitutional amendments against the practice; but in 1943, as reported by the Public Roads Administration, only 15 states out of the 48 and the District of Columbia did not use some part of the highway fund for something else. It is simply transferred to various accounts such as the general fund, education, relief, unemployment and others. It may not be wasted but as far as highway purposes are concerned, it is gone.

First "Gas" Tax In 1919

Back in 1919, the state of Oregon started taxing gasoline for highway purposes. The rest of the states followed immediately. It was a good idea. The highways needed money and the motorists paid the impost willingly. But even at that early day, the menace of diversion was apparent, for on November 2, 1920, Minnesota passed a constitutional amendment to protect the fund from molestation. However, car registration was not high in the period right after World War I, and diversion did not really rear its ugly head until 1932. From that time on, however, the highway fund was the cookie jar that attracted the greedy small boys of the other state departments.

To take monies raised by taxation on motor vehicle transportation for construction, improvement and maintenance of highways and use it otherwise is "unjust and unfair" in the language of the federal-aid highway act. But the act may deprive the state only up to one-third of its federal aid as a penalty for diversion. Most people think this penalty should have more teeth in it.

In the federal-aid airport bills now pending before the Senate and the House, all federal aid can be withheld from those states that divert any tax from aviation fuel or from special fees on aircraft, aviation or aeronautical

facilities or operations. That's pretty definite!

Congress and the people are giving more consideration to the evils of tax diversion. Besides those in Pennsylvania and Kentucky this year, constitutional amendments are coming up in Maryland and Texas in 1946 and in Indiana and Tennessee in 1947. They show the growing indignation against this hijacking of highway funds.

Must Enlighten Public

Getting the anti-diversion amendment on the ballot is a step in the right direction, but it should not rest there. A great many voters never mark "little ballots." For passage, the amendment must secure a majority of all votes cast at the election. Therefore an aggressive campaign to acquaint the citizens with the importance of the measure must be carried on. Motorists may deplore the condition of the highways due to tax diversion, but they must be reminded that if it continues, it is their fault.

Last year Maine, Washington and West Virginia passed amendments protecting highway user taxes. In 1942 Iowa and Oregon joined the ranks of states that want their highway tax dollars to be used for highways only. Idaho, Nevado, North and South Dakota passed amendments in 1940 after Michigan and New Hampshire had done the same in 1938. In all these cases, public-spirited individuals and organizations of all kinds saw to it that the voters knew for what they were voting.

Make It a Personal Matter

When one considers the many interests that use the highways, there seems no reason other than neglect or indifference that can defeat the amendments' passage. Every farmer, every trucker, every bus operator, every tourist, every private car owner should be for it, and should make it a personal matter to get out the vote.

In states that still have no protection against diversion, it is not too early to give serious thought to this vital question. Tax diversion must go and you can help get rid of it.

★ ★ ★

U. S. CHAMBER ADVOCATES STAGGERED HOURS

Transportation experts see the need for retaining staggered work hours, instituted during the war, to cope with anticipated transit and traffic peaks exceeding anything pre-war because of the return of private automobiles to normal daily use. Readjustment of work weeks affords opportunity for business and government organizations to cooperate with transit officials and traffic authorities in working out methods to maintain reasonable peak spreads and thereby avoid the necessity of street widenings and other expensive improvements.

The National Chamber's declaration on urban transportation recently adopted by the membership states:

Staggering of work hours to spread transit and street traffic peaks should be encouraged after the war as a continuing contribution to efficiency and relief of congestion.—*Business Action.*

★ ★ ★

THREE MORE STATES STIFFEN DRIVER RESPONSIBILITY LAWS

Nebraska, Minnesota and Georgia this year enacted financial responsibility laws of the type requiring suspension or revocation of the driving privileges of motorists involved in accidents who can't demonstrate through liability insurance or its equivalent the ability to discharge possible liability for injuries and damage.

Main feature of the Nebraska statute is that security is required in event of an accident. In accidents involving more than $50, the driver and owner must pay the damage within 60 days or license is suspended.

Reinstatement of the license is contingent upon the licensee's production of an insurance policy or equivalent bond to cover future accidents.—*Public Administration Clearing House.*

DISTRICT OF COLUMBIA PLANS EXTENSIVE FIVE-YEAR TRAFFIC CONTROL PROGRAM

Studies by the District of Columbia Department of Vehicles and Traffic indicate that use of Washington's major streets, especially in the downtown section, reached the saturation point just prior to the war. Careful analysis of the various factors involved lead to the estimate that within five years traffic will have again reached that peak.

The department therefore has prepared and submitted to the Board of Commissioners a program for expanding and perfecting the traffic control system, to be completed within that five-year period. This program, which involves a capital outlay of about $650,000, deals only with measures for the control and regulation of traffic. The widening and extension of highways and construction of bridges, grade separations and so forth is provided under a separate program of the Highway Department.

Modern Traffic Signals

One of the most important steps provides for installing additional signal faces at each controlled intersection so that there will be a signal on the far left corner as well as the present signal on the far right corner. Thus if one signal is hidden by a large truck or bus, a driver would still be able to see the other signal. Moreover, a pedestrian will always have a signal directly in front of him. In many ways this is the greatest advantage since it now is frequently difficult for a pedestrian to determine when it is proper to cross. It is estimated that this item alone will cost about $175,000.

Another important item intended primarily to aid the movement of traffic in the congested district recommends installation of a central control signal system to vary cycles and coordinate synchronization of lights to meet varying conditions at given points. The capital outlay for this proposal is estimated at $150,000.

There are now in Washington about 300 traffic signal controllers that have been in use over five years, including more than 150 which have been in use over ten years. These are to be replaced at a cost of approximately $25,000.

The program contemplates interconnecting a number of signal zones to provide a smoother flow of traffic within a given zone and in passing from one zone to another. This will cost about $20,000. In carrying out this project it will be necessary to replace fixed progressive installations at 25 intersections with modern, flexible-progressive equipment so as to synchronize with nearby zones at a cost of about $15,000.

New Signs and Markings

It is proposed to replace or renew all present regulatory, warning or directional signs and route markers with durable, attractive signs on metal posts at a cost of about $40,000 a year for the next five years.

Neon "one-way" signs have proven very effective in directing traffic on streets which are restricted in rush periods. It is proposed to install them on all streets where the part-time one-way restriction applies. This will cost about $20,000.

Pedestrian barricades, used to prevent pedestrians from crossing the streets at offset intersections or other hazardous locations, have been found very effective. An expenditure of $7,500 is to be authorized for these devices.

Durable or permanent markers in

lieu of painted white lines for crosswalks, center lines and lane lines are also to be provided at a total cost of $125,000.

An appropriation to reestablish the Motor Vehicle Parking Agency (discontinued during the war) is recommended. This agency was charged with the duty of handling the all important off-street parking problem in the District, and correlating it with necessary changes in on-street parking restrictions.

Engineering Staff Expansion

An expansion of the engineering staff is recommended at a cost of about $60,000 a year, or about $35,000 more than the present appropriation. The Engineering Division, to be headed by the deputy director would consist of about 30 persons ranging from traffic enumerators (10 or more) to a planning engineer. This division would be sub-divided into three sections dealing with planning, traffic surveys and accident analysis and prevention, respectively.

The post-war safety plans include recommendation of two inspections per year of all motor vehicles, to be made in the District's own inspection stations. As a result of war conditions approximately 72 per cent of all cars are now being rejected on first inspection. It is believed that more frequent inspection will materially improve this record. Post-war plans call for an additional station at a cost of $65,000, plus $10,000 for equipping it.

A greatly expanded program of traffic safety education, including driver training or retraining, is called for. This program includes an annual appropriation of $50,000 as compared with the present expenditure of $20,000 a year. Coupled with this would be a more thorough examination of applicants for motor vehicle operator's permits.

The total increase in operating expenses of the Department under this program will be about $300,000 per year. About half of this will arise from the cost of semi-annual inspection of motor vehicles and would be secured from the additional inspection fee. The remainder would be derived from other fees collected by the Department which at present go into the highway fund for the building and maintaining of streets and highway structures.

★ ★ ★

CARELESS MOTORISTS PENALIZED

Two facts served as the basis for a move by St. Paul recently in enacting an ordinance making it unlawful for motorists to leave automobiles parked on streets or unattended parking lots without first removing the ignition key. The facts: during 1944, 71 per cent of the 284 automobiles stolen in St. Paul were parked with ignition keys left in them; the records show also that 77 per cent of all automobile thefts in the city were by juveniles.

Similar ordinances are in effect in Minneapolis, Detroit, Kansas City, St. Joseph and Springfield, but the St. Paul ordinance differs in that police may remove the keys from the cars and owners must come to police headquarters to get them. Before keys are returned, violators must put up bail of $5. Copies of traffic tags, containing safety and anti-crime propaganda as well as essential information about cars involved, may be secured by writing to the police department.—*Public Administration Clearing House.*

★ ★ ★

FREEWAY LIGHTING MAY SET NEW STANDARDS

Plans are being made for 600 miles of lighted freeways in California. This lighting will be so much better than that of nearby roads or streets that it well might set up standards even in excess of I.E.S. minimum requirements.—*Street & Traffic Safety Lighting Newsletter.*

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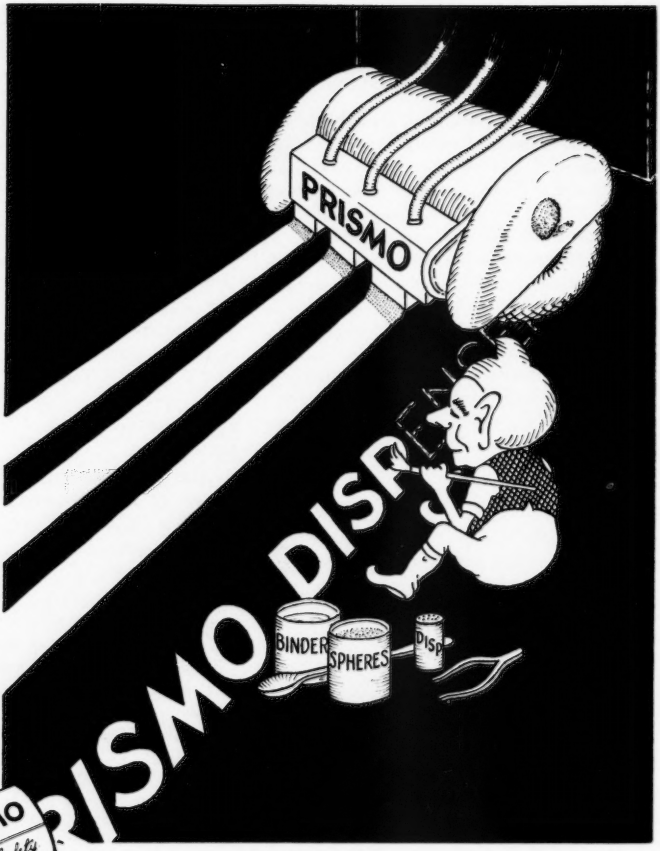

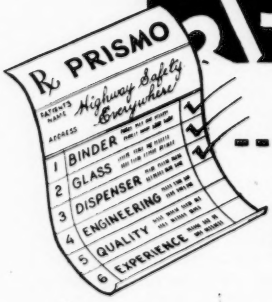

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BRIDGES AND ROADS IN FRANCE

France has innumerable transport problems, but none is more intractable than that of the damaged bridges and roads. Since the liberation the Ponts and Chausses (National Highway Department) has done remarkable work in repairing and reconstructing roads and bridges, but there is still much to be done, and in some sections of the country communications are so bad that small islands surrounded by rivers are absolutely cut off. In the south, for example, a very large area has the Mediterranean on one side, the Swiss frontier on another, and the rivers Rhone, Saone and Doubs without a road bridge standing on the third and fourth sides.

In 1918 France had to repair about 2,091 bridges which had been cut, the total length of the cuts amounting to about 15.5 miles. In 1940, at the time of the armistice, 2,531 bridges were cut, with a total length of damage equalling 44.7 miles. In 1944 no less than 5,000 bridges were damaged, and the aggregate length requiring repair was 74.6 miles. Latest figures show that 3,100 bridges have had temporary repairs which enable them to be used. This, however, does not mean that they can all take heavy traffic; on the contrary, some have been reduced to the status of footbridges. Some 317 bridges have already been entirely reconstructed. Altogether, 3,515 water crossings have been repaired one way or another, this figure including ferries, footbridges and other means.

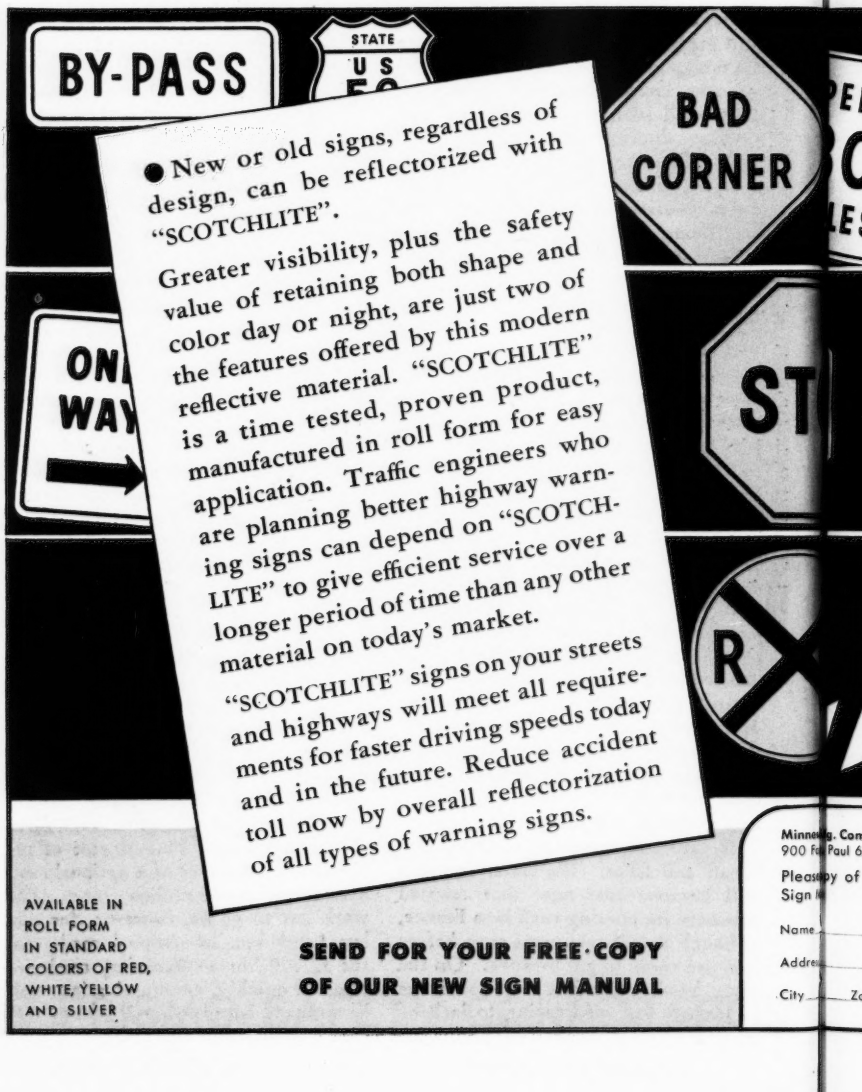
Lack Materials and Labor

Notable difficulties concern raw materials and labor. The latter shortage will be overcome now that released prisoners are pouring back into France, although it will take some time before they are ready to get to work. On the other hand, there is a great shortage of cement and steel owing to lack of coal, a scarcity of timber (the Germans took large quantities, much has been used to build hutments for bombed-out persons and a considerable tonnage is called for by gas producers), and, finally, there is almost no equipment such as concrete mixers, water hoses and pneumatic drills.

Readers will be interested to learn that during the occupation a great many repairs were made clandestinely. The Germans allowed only certain bridges to be repaired; that is, they would only permit those of military use to them to be made serviceable. French workers, however, with any materials they could find, often worked on non-scheduled bridges all night in order to effect repairs. When the Germans discovered this they stopped all repair work, undertaking such repairs as they judged necessary with their own labor. The government is pushing the work ahead as fast as it can and, wherever possible, improvements are being introduced. For example, where a bridge was badly placed and created a dangerous corner, the alignment has been modernized. With the virtual cessation of hostilities in Europe it may be possible to divert some Bailey Bridge equipment.

Roads, too, are in a very serious condition. It is estimated that one-tenth of all French road mileage is so seriously damaged that traffic is dangerous. This is due to lack of upkeep over more than five years. Holes are filled in with rubble, but foundations are in a very bad state, heavy military traffic in bad winter weather having turned them to slurry. Costs have also risen steeply. Present cost of relaying one kilometer of a national road is no less than one million francs. The work has to go on, however, for unless 8,000 km. of national roads and the 52,000 km. of secondary roads are repaired quickly, communications will be seriously hampered.—*Highway Research Abstracts.*

MOTORISTS CAN IDENTIFY EVIT
OR NIGHT, WHEN OVERALL RETC



● New or old signs, regardless of design, can be reflectorized with "SCOTCHLITE".

Greater visibility, plus the safety value of retaining both shape and color day or night, are just two of the features offered by this modern reflective material. "SCOTCHLITE" is a time tested, proven product, manufactured in roll form for easy application. Traffic engineers who are planning better highway warning signs can depend on "SCOTCHLITE" to give efficient service over a longer period of time than any other material on today's market.

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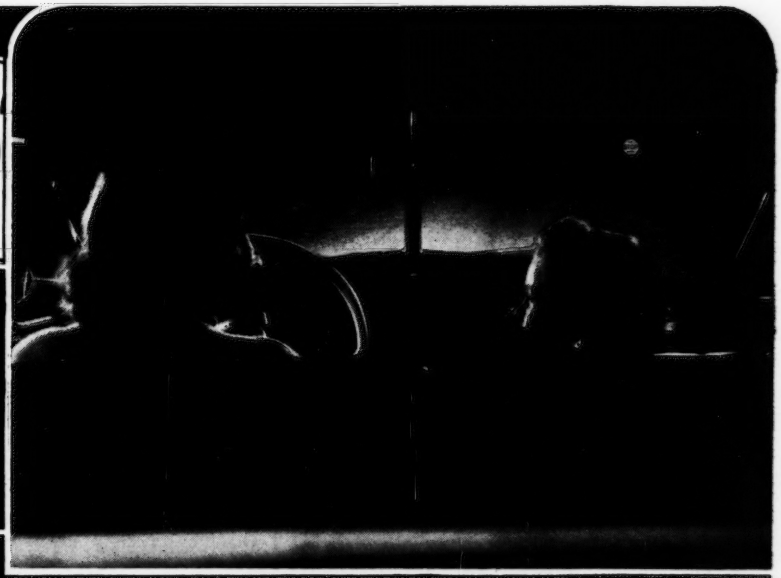

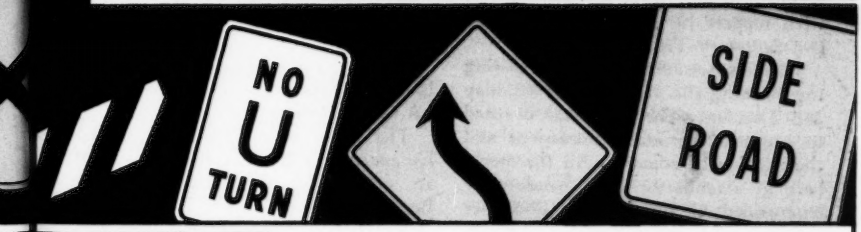

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ITE NEWS AND PERSONALS

I.T.E. Sixteenth Annual Business Meeting

The 16th Annual Business Meeting of the I.T.E., September 17-18 at the Belleview Stratford Hotel, Philadelphia, was one of the most successful ever held. Over 75 persons registered and many guests attended the social gatherings.

Due to travel restrictions, a meeting of convention proportions had not been planned for this year. Only those officers and committee chairmen who had official duties to perform were expected to be present. The lifting of gasoline restrictions, however, encouraged most members in the area to attend.

The scheduled meeting was preceded by a meeting of the Board of Direction on Sunday afternoon, September 16.

The business meeting was opened with reports by President Hammond and Secretary-Treasurer Smith.

Business sessions were held during the morning and afternoon of Monday and Tuesday. The time was devoted to committee reports, discussions and the election of officers. All the members in attendance were handsomely entertained at luncheons and dinner and on a field trip to Franklin Museum to see Atlantic Refining Company's "Driverater."

The genial hosts were: American Automobile Association, Atlantic Refining Co., Keystone Automobile Club and Philadelphia Transportation Co.

Robert A. Mitchell, member of the Board of Direction, and newly-elected vice-president, gave his time and effort unstintingly to handle the excellent arrangements for the Philadelphia meeting.

Complete transactions at the 16th Annual Meeting will be contained in the 1945 Proceedings which will be made available at a future date.

Thomas J. Seburn Installed As President

The newly-elected officers of the Institute for 1945-46 were installed Monday, September 17, during the annual business meeting.

Thomas J. Seburn was elected president, Robert A. Mitchell was elected vice-president, and Wilbur S. Smith was reelected secretary-treasurer. New members elected to the Board of Direction were Edgar F. Copell, Traffic Engineer, Massachusetts Department of Public Works, and Donald M. McNeil, Traffic Engineer, Bureau of Traffic Planning, Pittsburgh, Pa. They replaced Joseph Wehmeyer and Robert Mitchell.

Institute Receives I.A.C.P. Citation

The Institute of Traffic Engineers has received a citation, in the form of an engraved certificate, from the Board of Officers of the International Association of Chiefs of Police in recognition of "invaluable support" given the police during the Nationwide Brake Emphasis Program April 15 to June 1, 1945. The campaign was conducted as a wartime effort to reduce traffic accidents, conserve highway transportation and maintain vehicles in safe operating condition.

Robert E. Raleigh, acting director, Safety Division, I.A.C.P., in his letter

transmitting the citation to Harold Hammond, president, stated the Brake Check Program "had broader scope and achieved a higher degree of success than would have been possible without the help of yourself and your organization and that of many other leaders in the safety and highway transportation field. It showed what can be accomplished by broad cooperative effort and achieved results we believe will be of lasting benefit."

Washington Section Holds Meeting

The Washington Section held its first meeting of the Fall on the evening of September 12, with an attendance of 22 members and guests. The principal business was full consideration and discussion by the group of the report of the Committee on the Transportation Plan for the Metropolitan Area, Washington, D. C.

The committee was authorized to modify the report to include certain suggested changes so that the final report would represent the point of view of the Washington Section as a whole. The report will be sent, in due course, to the commissioners of the District of Columbia.

Members present at the meeting were L. A. Andriacchi, W. F. Boardman, J. B. Ecker, M. O. Eldridge, W. G. Eliot, H. F. Hammond, E. H. Holmes, D. W. Loutzenheiser, B. W. Marsh, J. H. Mitton, O. K. Normann, C. W. Prisk, W. L. Robinson, M. C. Stark and C. G. Stoneburner.

Guests were W. T. Adams, H. O. Carlton, D. K. Chacey, D. J. Locke, T. H. Locraft, H. L. Toadvine and C. F. Van Blankensteyn.

The next meeting is planned for October 24. Out-of-town guests are welcome.

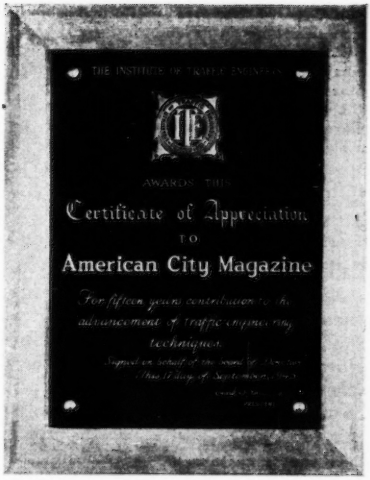
Tony Carrothers Commended

J. Anthony Carrothers (Assoc.), who had been overseas as a civilian traffic engineer, arrived in New York September 7. He was highly commended for his work in connection with the redeployment program in the European Theater by Brig. Gen. C. O. Thrasher, commanding general, Intermediate Section, embracing a large Assembly area.

Maj. General Frank S. Ross, chief of transportation, Service Forces, European Theater, concurred in the commendation and added his own congratulations for a job well done.

The commendation read, in part, as follows:

> The task delegated to Mr. Carrothers incorporated the planning of the traffic circulation within the Assembly Area and the signing of this Area with directional signs to each of the seventeen (17) Assembly Camps. Through his untiring efforts this was accomplished efficiently and with excellent results.



Appreciation of the Institute of Traffic Engineers was expressed to the American City Magazine, for fifteen years of contribution to the advancement of Traffic Engineering techniques, in the form of the above plaque presented to Mr. Harold Buttenheim, editor of the magazine. The presentation was made by Harold Hammond at the luncheon gathering Monday, September 17, during the annual I.T.E. business meeting.

Mr. Carrothers gave unstintingly of his time and efforts in making surveys and reconnaissances, and worked diligently to solve the many problems that arose during the planning period of the Redeployment Program.

During his service here, Mr. Carrothers displayed exceptional initiative, perseverance, and a high degree of technical ability.

Ross Shoaf and Dick Wilcox also landed in New York with Carrothers.

"Welcome Home!"

Calling All Members

William B. Powell, our noted historian, has put in a lot of time and effort toward a history of Traffic Engineering. Bill has always done a splendid job in his many contributions to the profession, but he cannot do this job alone. All I.T.E. members, both new and of long standing, are urged to contribute any information they may have or can obtain regarding the development or application of Traffic Engineering over the years past. Bill can decide on the historical value of material, but the main thing is to send it in.

PERSONALS

Dwight McCracken (Mem.), was made manager of the newly established Motor Transport Bureau of the Liberty Mutual Insurance Co., on September 1. The purpose of this bureau is to develop safe operating procedures for motor transport carriers of passengers and property. Prior to becoming manager of the bureau, McCracken had been director of the Traffic Safety Bureau of the same company since 1939. As part of his work with the Traffic Safety Bureau, he developed numerous pamphlets on traffic and transport. He also did considerable work in establishing warrants for one-way streets.

The community safety manual, "Hold That Line," which was issued by the U. S. Junior Chamber of Commerce, was prepared by McCracken.

He is a graduate of Harvard Bureau of Street Traffic Research, 1931. While there he conducted research covering methods of studying street traffic control.

Harry Porter, Jr., traffic engineer for the National Safety Council, was consultant on traffic and transportation for the Atom Bomb projects at Oak Ridge, Tenn., and Pasco, Wash.

He was also chairman of the National Safety Council survey committee of three staff members, who visited the projects. Under his direction seven reports were prepared and submitted to Col. K. D. Nichols, district engineer, U. S. Corps of Engineers, Manhattan District, relating to a consolidated community safety program with specific recommendations on school and home safety as well as traffic safety.

In August 1943, Harry was sent to Washington to discuss with War Department safety officials the transportation problems at Oak Ridge and Pasco. He then visited the projects at which time much of the preliminary work was undertaken.

Merton E. Ridge (Assoc.), formerly with the Illinois Division of Highways, took over the job as District Traffic Engineer for the Manhattan District, U. S. Engineers, in December 1943. Mert was stationed at Oak Ridge and was in full charge of traffic engineering and safety for the War Department.

We can all imagine what serious traffic problems develop when a city of 75,000 persons is built in a few months.

Mert demonstrated the importance of traffic engineering and its economic value to those who had charge of the Clinton Engineer Works.

Herman J. Hoose (Assoc.), was for almost a year, until the project was

completed, traffic engineer at the Hanford Engineer Works at Pasco, Wash.

Again, through his work, traffic engineering played an important part in the development of the project. Here a visitor will find plenty of off-street parking space in Richland's business district.

James G. Hayden (Mem.), writes to Wilbur Smith at I.T.E. Headquarters under date of August 20. An excerpt from the letter follows:

I have been here at the Assembly Area Headquarters in Reims, France, for a little more than a month. Prior to that I was in Mannheim, Germany. The latter was one of the five German cities generally considered as worst hit by our bombers. They did a first class job and seldom dropped two bombs in the same spot. There wasn't a single building standing for blocks on end and few houses in the city escaped damage of some sort. In contrast, Heidelberg, only a few miles away was practically untouched.

At the outset I did road and bridge reconnaissance, worked out circulation plans, designed and placed signs in English and French, and handled mapping and charting. When we got going on the Yellow Diamond haul in support of the First French and our own Seventh Army, I got into maintenance, supply and driver instruction, safety, etc. Here, I am in charge of maintenance, equipment and safety under the Chief of Motor Transport. We are operating some 23 truck companies at present, involving approximately 1200 task vehicles. Very likely the peace will result in rapid curtailment of operations in this area. Rumors are flying fast and furiously—everybody wants to get home immediately. Surprisingly, there wasn't a great deal of celebrating done here when the good news broke.

Major Joseph Feuchter (Mem.), with the Military Police, in a letter to Harold Hammond, relates some of his experiences while organizing traffic in Manila:

Dear Harold:

It was really quite a job setting up both the civilian and military police traffic divisions in Manila during February through May of this year. Trained personnel were noticeable by their absence. There was almost no personnel available (of any kind) for setting up and operating a traffic division in a war-torn city of a million people with fighting still going on within the city proper.

My first problem was to establish and train enough personnel to direct tactical traffic over the very limited number of thoroughfares available so as to provide movement of supplies and personnel for the fighting. Next came the setting up of a survey section with initial duties to seek additional thoroughfares (not mined or under enemy fire or otherwise blocked) for use of the military, which later could be used by the thousands of civilians who were evacuating the city. This survey group, mostly civilians, were trained in the making of regular traffic surveys such as volume counts, speed studies, parking studies, street usage and traffic direction efficiency. Of course this may not sound like much but this crew deserves a whale of a lot of credit when you consider that a great deal of their work was under fire, along thoroughfares littered and blocked with mines and debris from destroyed buildings, around bridges that were destroyed and on foot without adequate motor transportation. Practically all the crews worked under these conditions. This survey crew later developed some of the prettiest volume, density and speed studies and charts that you've ever seen and helped a great deal in drafting proper rules and regulations (along Model Traffic Ordinance lines) which I managed to initiate before I was reassigned.

Training of Office Force

After the survey crew, came the office force, who of course knew nothing of records and other procedure in a police or engineer's traffic office. They therefore had to be told in detail every little thing, but a quite efficient office force did develop with all sorts of traffic arrest, traffic flow, traffic accident facts and stolen and recovered vehicle records. The training of the force for the accident bureau was done with the help of a Capt. Duane Pickerell who finally arrived and was assigned to me. He actually took the investigating crews out to reported accident locations where he trained on the ground, so to speak.

The lack of personnel trained in handling urban traffic, especially with combat and supply traffic superimposed, required the establishment of a training school for both military and civilian police. A great deal of this was on the spot or in-service training as operations had to continue.

Caraboa, and bull carts, caratellas, callesas, caramatas, auto callesas, jitneys (converted trucks, etc., for hauling passengers), pushcarts, 4500 private cars in the hands of guerrillas, along with about 60,000 military vehicles added to the problem. A million pedestrians on the streets (no sidewalks) made quite a

jumble. The pedestrians of course had almost forgotten, in the three years of Jap occupation, anything they ever knew about motor vehicles and they never were educated in traffic safety. Some fun, believe me.

Four Bridges Destroyed

Most of the foregoing pertains to the area north of the Pasig River as the four bridges with a nine-lane total capacity were destroyed and the only crossing was provided by a pontoon bridge. (Bailey bridges with three-lane capacity have since been erected). For some reason the Japs on the south side of the river did not like us to use the routes we selected for supply and evacuation. There were only slightly over 125,000 civilians who had to be moved out of the combat area. The Japs even tried to dissuade us from these routes with everything they had and did persuade some civilians to try and use the military routes with the result that traffic was delayed a little bit. They almost had me persuaded, after getting eight flats from small arms fire on my jeep in six days, that I should change the routes, but some infantry managed to catch up with the snipers and removed their obnoxious presence so I did not have to revise the plans. I might mention, too, that the ability of the Americans (and vice versa) not to understand about 75 per cent of the civilians helped a lot to make things more problematical.

With it all though, I finally got the division in shape. I started a new vehicular code as the old one was completely destroyed, and was preparing to sit back and reap the fruits of my arduous but interesting work when Uncle decided differently. He relieved me and assigned my assistant, Capt. Frank Tenny, to take over as the Director of Traffic. What next? I soon found out. I was given the assignment of making a survey of traffic of all the Philippines and assisting the City Plan Commission headed by Mr. Frank Croft, in planning for all the damaged and destroyed cities in the Islands. I've completed my survey, though the city planning has not been completed, and I'm now on a temporary assignment as provost marshal of one of the provinces.

Valuable Experience

I've learned many things of a practical nature here. It's been worth years of work back in the States. I was even surprised as to how smoothly the change over from the old custom of driving on the left of the road to the right of the road went. We really expected a large number of accidents involving the animal-drawn vehicles but fortunately we have had exceptionally few that can be attributed to that cause. The acceptance throughout the Islands of the standardization of traffic control devices is also remarkable. A person from the States would feel he was driving under home conditions. We are using our standards everywhere as soon as materials are available.

Best personal wishes for you and yours, and remember me to any of the I.T.E. you meet.

Maj. Gordon K. Gravelle recently was awarded the Legion of Merit by Major General Frank S. Ross, Chief of Transportation, in Paris.

Major Gravelle received the award for meritorious services while serving with the Movements and Control and Planning Divisions of the Office of Chief of Transportation.

His citation stated:

"Major Gravelle displayed outstanding ability in meeting the vast demands on transportation by planning the road and rail network to support the operation overload. He exhibited great initiative and foresight in constantly analyzing the transportation system, greatly increasing its efficiency and the movements of supplies by the selection of commodity loading points, materially increased train schedules, coordination of the control of traffic and the operation of depot facilities. Major Gravelle's services reflect highest credit upon himself and the armed forces of the United States."

Before he reported for active duty at Fort Belvoir, Va., in 1941, as a second lieutenant, Maj. Gravelle was with the Michigan State Highway Department at Lansing, Mich.

Lt. Col. Franklin M. Kreml was ordered to duty in Washington on September 1, 1945, as chief, planning and logistics branch, Highway Division, Transportation Corps, War Department, with offices in the Pentagon.

Col. Kreml spent some time at home on furlough after being relieved of his former duty as chief, Transportation Section, Ffth Army.

In his present assignment, Col. Kreml will serve under his former commander, the new chief of the Highway Division, Brig. Gen. Edward H. Lastayo. Until recently, Gen. Lastayo was chief of transportation, Mediterranean Theatre. Col. Kreml, before entering service, was director of

Northwestern University Traffic Safety Institute and a director of the Safety Division of the International Association of Chiefs of Police.

Lt. Col. Edward G. Wetzel (Assoc. I.T.E.) recently returned from overseas, and now in an inactive status, has accepted a position with the New York Port Authority in the department of planning and development starting October 1. Col. Wetzel returned from overseas August 1 after being released from duty as chief, highway planning and control branch, transportation staff, Headquarters, 12th Army Group, under command of Gen. Bradley, located in Weisboden, Germany.

Formerly, he was assistant state traffic engineer for the Indiana State Traffic Commission and just prior to being called to active duty as a reserve officer, in June 1941, he spent a year at the Yale Bureau of Street Traffic Research.

ON THE SHELF

Report on Rail-Highway Grade-Crossing Accidents 1944, Interstate Commerce Commission, Bureau of Transport Economics and Statistics, Washington, D. C. File No. 4-B-1, mimeographed, 32 pages.

Report of an Engineering Study for Expressways in the Hartford Metropolitan Area, Bureau of Highway Planning Studies, Connecticut State Highway Department, 1945. Maps, charts, diagrams, 69 pages.

Downtown Los Angeles Parking Study, Downtown Business Men's Association, Parking Committee, Los Angeles. Charts, diagrams, tables, 23 pages.

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YALE AWARDS FELLOWSHIPS IN TRAFFIC ENGINEERING

Awards of ten graduate fellowships in Traffic Engineering have been announced by Yale University. These fellowships provide a stipend of $1400 each and enable recipients to engage in a full academic year in graduate study in Traffic Engineering at the Yale Bureau of Highway Traffic. Scholarships providing for the payment of tuition fees were awarded to an additional seven men.

The ten fellowships were made possible through a grant to the Bureau of Highway Traffic by the Automotive Safety Foundation. Awards were based upon educational and experience records of candidates. Preference was given to those now employed in street and highway engineering.

In announcing the awards, Theodore M. Matson, director of the Bureau of Highway Traffic, pointed out the timeliness of traffic engineering training. "With the end of the war, the removal of gasoline rationing, the use of large numbers of worn-out vehicles, and relaxed attitudes of road users, severe problems of traffic accidents and congestion will result immediately. These problems must be effectively met through constructive traffic engineering steps guided by professionally qualified men. Tremendous programs for post-war highway construction will further accentuate the need for men technically trained in matters of traffic operations and design," said Mr. Matson.

Opportunity for Research

The course of study which will be undertaken at Yale is at a graduate level and deals with the engineering phases of street and highway operations. It is aimed to develop keen analytical ability on the part of the students in dealing with highway traffic problems. It provides opportunity for each student to carry on original research in some particular phase of traffic engineering.

"There is an increasing demand for traffic engineering skills which will be developed. This need is manifest in several phases of highway work, for it is found that traffic characteristics and factors are important considerations, not only in the daily routine operations of streets and highways, but also in the planning of new routes and parking terminals, and especially in the design of these facilities," Mr. Matson said.

The ten fellowships were granted to men from seven states, the District of Columbia, Canada and Hawaii. Four of the fellows are employed in city departments, five in state highway departments, and one in an engineering firm. The seven other men, who were granted tuition scholarships, are from four additional states. Three are employed by state highway agencies, three by cities, and one has recently been discharged from transportation work with military forces overseas.

The Award List

Men awarded fellowships are: Robert A. Burch, Jr., Wilson, N. C.; Adrien Genest, Montreal, Canada; Stewart M. Gourlay, Detroit, Mich.; George W. Howie, Jr., Portland, Ore.; Alexander L. Hutchison, Los Angeles, Calif.; David S. Johnson, Jr., Branford, Conn.; W. Norman Kennedy, Olympia, Wash.; M. Earl Campbell, West Virginia; William R. Welty, Austin, Tex., and F. Houston Wynn, Honolulu, Hawaii.

Men awarded tuition scholarships are: Henry A. Barnes, Flint, Mich.; M. Earl Campbell, Charleston, W. Va.; J. Anthony Carrothers, Duluth, Minn.; Fred J. Manning, Miami, Fla.; Robert Mitchell, Hartford, Conn.; Earle Osterhoudt, Hartford, Conn.,

and Herbert B. Woodling, Akron, O.

The traffic engineering course at Yale is open to other persons qualified for graduate training. Applications have been received from a number of returning servicemen, and it is expected that the class this year will include several eligible for benefits under the "G. I. Bill of Rights." Several students from foreign countries have applied for admission. In each case the applicant is sponsored by an official governmental agency.

KANSAS CITY PLAN FOR BETTER PARKING

Opening of six municipal parking lots for free public use in Kansas City, Kan., marks a step toward realization of the comprehensive plan for better parking drawn up in 1940, the International City Managers' Association reports.

All six lots are located in accordance with the over-all plan. Three of them are permanent with space for 336 cars. The other three lots have facilities for 300 cars and are in use temporarily. The second three lots will be completed when the abutting street is rebuilt in accordance with the Federal-aid highway plan.

The lots are all conveniently located near the retail business district.

Five and one-half acres of land that was either vacant or occupied by old and obsolete residences were utilized for the six lots. The land was acquired by condemnation at a cost of $234,000. Improvements will cost approximately $150,000. Eighty per cent of the cost of land and improvements is financed through special assessment and 20 per cent by 10-year general improvement serial bonds.

10-Year-Old Idea

The idea of off-street municipal parking lots was conceived in 1935 when a survey revealed that off-street parking spaces were available for only 613 cars, these being represented by private areas behind business establishments, commercial garages and commercial parking lots.

The purposes of the parking lot plan are: (1) to provide needed parking space for shoppers; (2) to encourage rehabilitation of the downtown area, and (3) to aid in the development of new businesses on streets parallel to the main business street instead of only on the main street.

Parking in the six municipal lots is limited to a two-hour period between the hours of 8 A.M. and 6 P.M., and all night parking is prohibited. When all lots are completed parallel parking will replace angle parking on the main business street, and parking meters will be installed to allow 30-minute parking for five cents. Use of the meters will tend to popularize use of the parking lots and make available parking for short-time parkers who are willing to pay the charge, it is anticipated.

It is expected that revenue from parking meters will pay for them and for the cost of policing and lighting parking lots. Assuming a complete turnover of cars every two hours the total number of cars that could be parked in the six lots during the day would be 3,180.—*Public Administration Clearing House.*

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REVENUE FROM JACKSONVILLE'S PARKING METERS

Parking meters in Jacksonville, Fla., installed in mid-January, 1942, produced revenue amounting to $290,811 up to July 1 of this year. The city's 1,374 meters are bringing in an average of $6,000 a month and for the first six months of the year yielded a total of $41,279.—*Public Administration Clearing House.*

"The Street Lights we installed after the Last War are still good"

DON'T YOU BELIEVE IT!

Street lighting that was good 15, 20 or 25 years ago may be as obsolete today as a model T Ford.

Like all other great public conveniences, street lighting has progressed—not only in its greater efficiency and lower costs, but also in the number of services it performs.

No longer is "decoration" the primary function of street lighting. Today's traffic (even in small towns), and today's manner of living demand that street lighting illuminate the streets sufficiently for safe vehicular and pedestrian traffic.

To do this, new luminaires have been developed with lighting efficiency several times as great as those which were available a few years ago. Exhaustive research by engineering organizations has developed new street lighting techniques which have led to the production of taller, pendant-type standards—with the result that today (and often for little more cost) you can have two or three times more light on the street *where it is needed* than 20 years ago.

Ask your electric utility company for details. Get its recommendations for improving your community—saving money, lives and economic loss—through adequate modern street lighting. Or write The Street and Traffic Safety Lighting Bureau, 155 East 44th Street, New York 17, New York.

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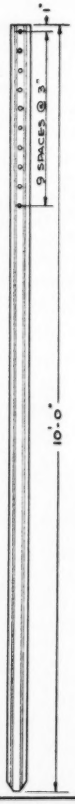
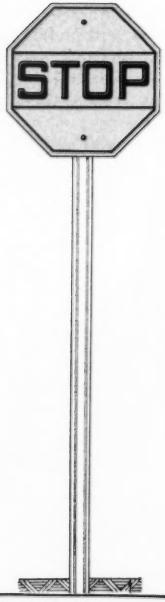


POSTS

STANDARD HIGHWAY SIGN POSTS

7 ft., 6 in.
10 feet
12 feet



The Hunt Company, 2405 W. McNichols Road, Detroit 21, Mich.

YALE BUREAU TO COOPERATE IN INTER-AMERICAN HIGHWAY TRAINING

For many years the American Road Builders' Association* has sponsored a highway training program for Latin-American engineers. This training has been carried on in this country through the cooperation of the state highway departments, manufacturers of road building equipment and machinery, contractors, automobile associations, technical publishers and the federal government.

The purpose of the program is to create stronger ties and more friendly relations between the countries of the western hemisphere and to provide the opportunity for Latin-American highway engineers and highway construction men to familiarize themselves with American equipment, materials, methods and construction.

Recently a new and broader program has been initiated. Governmental bodies cooperating include: Office of Inter-American Affairs, U. S. Department of State, Pan American Highway Confederation and Public Roads Administration. For the first year of operation, the American Road Builders' Association is offering 20 Inter-American highway training awards to qualified Latin-Americans. An individual course of training will be planned for each trainee based on his past experience, training and plans for the future.

Smith to Lecture

The technical program includes a long list of subjects and many outstanding lecturers. A program to deal with the various traffic phases has been outlined. Wilbur Smith, associate director, Bureau of Highway Traffic, Yale University, will lecture on traffic control at the lecture course to be held in Washington in April. Further opportunity to study traffic control will be offered at the Yale Bureau for Street Traffic Research, New Haven, Conn., between February 7 and March 8.

The major subjects this course covers include signs and regulations, markings, islands and intersection redesign, illumination, terminal facilities, parking, roadway design, traffic planning, traffic surveys, accident records and analysis, and enforcement.

*Charles M. Upham, Washington 4, D. C., is Engineer-Director.

Signal Association To Meet Nov. 12-15

The 50th annual meeting of the International Municipal Signal Association will be held at Hotel LaSalle, Chicago, November 12-15. All subjects of interest to municipal signal men will be covered—municipal fire alarm, police signal, traffic signals, radio communication for the police department, fire department and other emergency users, and allied work. Members of the association, who made a notable record during the war in the promotion and maintenance of public safety, will hear details of plans to make their work of still greater value to every American community.

David J. Talbot, 707 City Hall, Chicago, is general chairman of the convention committee.

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69,000,000 AUTOS PRODUCED SINCE 1900

From 1900 to 1942 the American automobile industry produced 69,000,000 automobiles whose wholesale value was 44 billion dollars. At the 1921 Automobile Show there were 87 different exhibitions; by 1930 only 46. Today three companies make more than 90 per cent of the country's cars.—*American Petroleum Industries Quarterly.*

CONTROL THAT SPEED!

Drivers of the nation are warned that neither they nor their cars are in shape to indulge in a post-war speed spree without piling up the biggest traffic toll in the country's history.

The warning came from a joint committee on post-war speed control that represents 14 national organizations, official and otherwise, interested in traffic safety, including the Institute of Traffic Engineers.

Their report makes specific recommendations for holding down the traffic toll in the months ahead.

"The nation is in no condition," says the committee, "to return suddenly to pre-war speeds. The present average age of passenger cars is more than eight years, as compared with an average age of four and a half years in 1940.

"Many tires have been driven far beyond their normal life. Many streets and highways are in even worse condition than they were in 1944.

"Drivers and pedestrians have become accustomed to top speeds of 35 or 40 miles. Police, highway and other traffic departments are woefully undermanned. Returning service men have been used to driving under vastly different conditions.

"A sudden return to pre-war speeds may well produce an accident toll far greater than the pre-war peak of 40,000 deaths and 1,400,000 injuries reached in 1941.

"This toll can be averted only by the wisest and most energetic action of traffic officials, supported by organized public opinion—and most of all by understanding and self control on the part of every motorist and pedestrian."

"Drivers are urged to increase their top speed very gradually, if at all," the committee says, "and to increase their caution and watchfulness with every added mile."

Traffic enforcement officers and courts—state, county and city—are urged by the committee to take prompt, vigorous action to prevent an epidemic of dangerous speeding.

Driver license departments are asked to emphasize the danger of speed and warworn cars when granting licenses to returned service men. Wise use of the power of revoking or suspending driver licenses for excessive speed is urged.

Traffic engineers, the committee points out, can help hold down the post-war accident toll by renewing road markings, making sure all signs are clearly visible, erecting proper warning signs at hazard points and by determining safe speeds at various points and informing drivers of these speeds.

The committee urges an intensive campaign of public information to drivers and pedestrians of all ages on the special dangers of the transition period. Civic, service and other organizations are urged to give active support to a united safety program.

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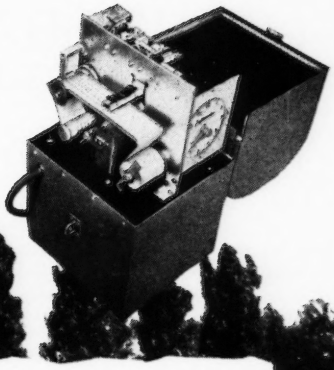
MOTOR VEHICLE FUEL CONSUMPTION IN 1944

Private and commercial vehicles consumed approximately 16,090,000,000 gallons of motor fuel in highway travel in the 48 states and the District of Columbia in 1944, according to figures compiled by the Public Roads Administration from reports submitted by the states.

This was an increase of approximately 422,000,000 gallons above the motor fuel consumption for highway usage in 1943. The 1944 motor fuel consumption, however, was only 68 per cent of the 23,638,000,000 gallons consumed by private and commercial vehicles in 1941, prior to wartime restrictions on motor vehicle travel.—*Transport Topics.*

ARE YOU PLANNING AHEAD?



Many state, highway and county engineers are not only "planning ahead" for the construction of new highways and streets, but have already, through the aid of Streeter-Amet Traficounters, made extensive surveys . . . and are ready to put into operation a complete construction program, as soon as facilities and materials are available.

The Traficounter is a precision instrument . . . twice as fast as any other vehicle counter. Easy to install . . . economical to operate . . . at work 24 hours a day, rain or shine. It gives facts that are indispensable to the traffic engineers who do the planning. Write for Bulletin on Streeter-Amet Traficounters.

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PORT AUTHORITY ISSUES BONDS FOR TRUCK TERMINALS

The Port of New York Authority on September 12 disposed of $7,500,000 worth of its Series J, General Reserve Bonds, due in 1985, at the bid price of 96,1099, representing a net interest cost to the Authority of 1.9056%, according to an announcement made by Chairman Howard S. Cullman following opening of bids by the Finance Committee of the Agency.

Harriman, Ripley & Co., Inc., 63 Wall Street, headed a group of underwriters who purchased the bonds, which will provide funds for the construction of the Port Authority's proposed Manhattan and Newark Union Motor Truck Terminals. Construction of the terminals will begin soon, and completion is scheduled for January 1947.

Chairman Cullman stated that the Series J Bonds are direct and general obligations of the Port Authority, and will be paid out of the terminal revenues. The bonds are also secured by a pledge of the General Reserve Fund of the Authority, as are its outstanding Series G Bonds and Series H Notes, as well as all General and Refunding Bonds.

The Series J Bonds sold by the Port Authority are unique in that they carry a feature calling for their mandatory conversion to General and Refunding Bonds having the same interest rate, maturity date, call prices, and the like. Eliminating a separate refunding operation after the truck terminals are opened and the projects become eligible for such a refunding operation under the Basic Resolution, this mandatory conversion feature will save the Port Authority between 2 and 2½ points.

The Manhattan Motor Truck Terminal, to be built at a cost of $4,850,000, will be 1,000 feet long and 175 feet wide, with a daily capacity of 2,000 tons. It will extend from Washington to Greenwich Streets, and from Spring to Houston Streets. The length of the building will necessitate the closing of Charlton and King Streets, between Greenwich and Washington Streets.

In Newark, the 2,500-ton truck freight station will cost $2,650,000 and will be located on a site of about 25 acres in the area east of Broad Street and Frelinghuysen Avenue and south of the Passaic River. The terminal structure will be 1,100 feet long and 200 feet wide.

The difference in the cost of the two terminals which are almost identical in size and design, results from the necessity of providing parking space on the roof of the Manhattan terminal for loaded trucks and trailers. This type of roof construction is necessarily costly. With ground parking space available at the Newark terminal, such roof construction is unnecessary. In addition, there is a difference in land costs.

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INSTITUTE ACTIVITIES 10 YEARS AGO

Taken from Traffic Engineering, October 1935

Pennsylvania and Ohio enter into agreements with the U. S. Bureau of Public Roads to conduct highway planning studies which will include a detailed inventory of road mileage, location and condition of roads and highway structures; a survey of volume and distribution of traffic; and a detailed study of truck and bus traffic, including the origin and destination of passengers and freight traffic, commodities carried, etc.

Bureau for Street Traffic Research at Harvard University to organize traffic course in the Federal Bureau of Investigation "National Crime School."

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U. S. STRATEGIC AIR FORCES CITED FOR SAFETY

The pioneer safety achievements of the United States Strategic Air Forces in the European Theater of Operations were recently recognized when Ned H. Dearborn, president of the National Safety Council, bestowed on the organization the nation's highest safety award—the award of honor for Distinguished Service to Safety.

The presentation of the award—the first ever made to an overseas unit—took place at 11:00 o'clock September 6, in the Pentagon to Major General F. L. Anderson, who was deputy commander for operations of USSTAF prior to the cessation of hostilities in Europe and who is now assistant chief of staff A-1 in General Arnold's office.

In making the presentation, Mr. Dearborn gave special praise to the commanding officers of the Base Air Depot Area and the Eighth and Ninth Air Forces for their concern in the safety and welfare of their men. He also commented on the officers' interest in setting up safety officers' training courses in cooperation with the British Royal Society for the Prevention of Accidents.

"The establishment of a comprehensive accident prevention program under actual combat conditions was a major achievement," Mr. Dearborn said, "but it made us even happier to learn that the end of hostilities has not brought a let-up in the ground safety program. Instead, I find that the USSTAF program now is being pursued even more vigorously than ever to insure the safe return of those boys who escaped the hazards of combat."

Traffic Training At Northwestern

A three-week Traffic Officers' Training School for police will be conducted at Northwestern University Traffic Institute, Evanston, Ill., from October 29 to November 17.

The goal of the three week-course is to provide officers who attend a basic knowledge and techniques required for sound traffic control.

The cooperation of all agencies and individuals concerned with traffic control is asked in bring this course to the attention of police officers with whom they may work.

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PHILADELPHIA TRANSPORTATION CO. EXPANSION PROGRAM

A huge program of expansion calling for the expenditure of $19,500,000 over a five-year period is planned by Philadelphia Transportation Company to solve its post-war transit problem. The program involves the purchase of 870 vehicles in all, including 320 motor buses, 300 streamlined street cars and 250 trackless trolleys.

Present plans call for delivery of 100 streamlined street cars and 65 trackless trolleys by the middle of next year and 100 motor buses early in January, according to a representative of the company. The five-year modernization plan, when completed, will bring the total number of surface vehicles to 1625 units. There are now 755 operating in the Quaker City.

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STATES ENACT LAWS RELATING TO AVIATION

Possibility of federal subsidies for municipal airport construction and the likelihood of greatly increased flying after the war prompted 18 states to enact airport and aviation laws during recent legislative sessions.

Several states established aeronautics commissions or boards to administer the state aviation and airport program, and, in anticipation of congressional action, several authorized municipalities to accept federal aid for airports, the American Municipal Association reports.

Technical services for airport development will be provided municipalities by two states—Montana and West Virginia.